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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/738,469	12/15/2000	Richard Kenneth McGuire	GB9-2000-0097- US1	9668

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EXAMINER

STEELMAN, MARY J

ART UNIT	PAPER NUMBER
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2122

DATE MAILED: 10/04/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/738,469

Applicant(s)

MCGUIRE ET AL.

Examiner

Mary J. Steelman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12/15/00, 02/28/01, 04/26/01, 03/27/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Claims 1-14 are pending.

#### *Drawings*

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description:

Fig. 1, #60

Fig 6A,B #610 (See Specification page 37, line 25.), 601, 602

(See Specification, page 37, line 25.)

Fig. 7, #740 (See Specification page 42, line 1, recites, "step 840", should be --step 740--)

A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Fig. 6B, #626. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

#### *Specification*

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the

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printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

5. Page 40, line 14, recites, "...the it can update...", should be --then it can update--. Add an 'n' to 'the'.

6. The use of the trademark JAVA has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

### ***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. There seems to be some words missing from the claim language.

"Copying said third parameter into a data structure associated with said class loader which loader said another class file." Examiner will treat the claim as if it recites, "Copying said third parameter into a data structure associated with said class loader", for examination purposes.

***Claim Rejections - 35 USC § 102***

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-14 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6430569 to Bracha et al.

Per claim 1:

-two or more class loaders... (Col. 3, lines 48-50, "...environment that employs multiple runtime name spaces, user-defined class loaders...")

-a constraint checking mechanism so that where a first class file loaded by a first class loader makes a symbolic reference to a second class file loaded by a second class loader, said symbolic reference including a descriptor of a third class file, the constraint enforces that the first and second class files agree on the identity of the third class file, (See fig. 2, #210, fig. 3, #310, col. 3, line 51, "...creating and maintaining a set of loader constraints...", col. 5, lines 1-7, "...system 100 identifies a class that makes a symbolic reference to a class or attribute that is contained in another class when system 100 executes an instruction contained in class...that references a method...in a class...Resolving such a symbolic reference involves a loaded class cache (LCC) and a constraint table (CT)).", col. 4, lines 51-56, "...system identifies a class that makes a symbolic reference to a class or attribute that is contained in another class. While resolving...system 100 imposes a constraint...")

-said constraint checking mechanism including means for creating a data structure for recording a constraint as an asymmetric relationship between two class loaders, wherein said data structure

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includes, for a class loader which has loaded a class file that contains a symbolic reference to another file, a first parameter denoting the class file which is identified by a descriptor in said symbolic reference, and a second parameter denoting the class loader which loaded said another class file. (Col. 5, lines 1-23, "...Resolving such a symbolic reference involves a loaded class cache (LCC) and a constraint table (CT). A loaded class cache maps a class name and an initiating class loader to the runtime representation of a class type...the JVM checks...to determine whether E (a class name) has previously been loaded by L1...defining loader...If so, the reference is resolved...If not, the JVM loads the referenced class...The CT maps a class name to a set of pairs. Each pair consists of a class type and a set of initiating class loaders. Given a class name, one can extract from the CT all constraints placed on the class...")

Per claim 2:

-data structure further includes a third parameter denoting the object reference to said class file which is identified by a descriptor in said symbolic reference, as loaded by the class loader with which the data structure is associated. (Col. 5, line 8-12)

Per claim 3:

-data structure further includes a fourth parameter, denoting the object reference to said class file which is identified by a descriptor in said symbolic reference, as loaded by said class loader which loaded said another class file. (Col. 5, line 15, "defining loader")

Per claim 4:

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-comparing said third and fourth parameters, to identify a constraint violation if they do not match. (Col. 3, lines 60-67, "...at the earliest time that the type is loaded by both loaders-methods and apparatus verify that the constraint has been met.", col. 5, lines 20-23, "Given a class name, one can extract from the CT all constraints placed on the class.", & 48-54, "While resolving the symbolic reference, system 100 imposes a constraint that requires that the type of the referenced attribute...when loaded by a loader that defines the referencing class...be the same as the type for the referenced attribute ...when loaded by a loader that defines the referenced class.")

Per claim 5:

Copying said third parameter into a data structure associated with said class loader which loader said another class file. (Col. 5, lines 28-29, "To create an entry...(in the loaded class cache)...the JVM creates an LCC entry indexed by the key...")

Per claims 6, 8 and 12:

-each class loader has its own cache, and the data structure for a class loader is stored in the cache for that class loader. (Col. 3, lines 49-52, "...multiple runtime name spaces, user-defined class loaders..." & col. 5, lines 6-8, "...loaded class cache...")

Per claims 7, 11, and 13:

-two or more class loaders for loading program class files into the system and a constraint checking mechanism so that where a first class file loaded by a first class loader makes a

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symbolic reference to a second class file loaded by a second class loader, said symbolic reference including a descriptor of a third class file, the constraint enforces that the first and second class files agree on the identity of the third class file, said method comprising the steps of: (See limitations addressed in claim 1.)

-identifying the need for a constraint between said first and second class loaders in respect of said third class file; (Col. 3, lines 57-58, "If a class references an attribute that is contained in another class, a constraint is established.")

-creating a data structure for each of said first and second class loaders; (Col. 3, line 50-52, "This is accomplished by creating and maintaining a set of loader constraints that are dynamically updated as class loading takes place.")

-setting a pointer from the data structure for the first class loader to the data structure for the second class loader to identify the latter as being the constraint parent. (Col. 5, line 9, "...initiating class loader...")

Per claims 9 & 10:

-resolving said third class file to a first object reference by the first class loader; copying the first object reference from the third class file to the data structure for the second class loader; resolving said third class file to a second object reference by the second class loader; (Col. 5, lines 8-19.)

-checking that said first and second object references are identical to ensure that said constraint has not been violated. (Col. 3, lines 61-62, "...verify that the constraint has been met.")



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Per claim 11:

(See limitations addressed in claims 1, 2, and 7.)

Per claim 14:

-updating comprises updating said second data structure with the reference. (Col. 3, line 52, "...dynamically updated as class loading takes place.")

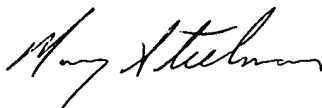
***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

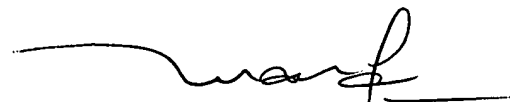
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary Steelman, whose telephone number is (703) 305-4564. The examiner can normally be reached Monday through Thursday, from 7:00 A.M. to 5:30 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam can be reached on (703) 305-4552.

The fax phone numbers are (703) 872-9306 for regular communications and for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Mary Steelman



09/29/2003



**TUAN DAM**  
**SUPERVISORY PATENT EXAMINER**